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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/637,221	08/08/2003	Randall M. Smith	400290	3334

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131 S. DEARBORN ST., SUITE 2400  
CHICAGO, IL 60603-5803

EXAMINER
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LAURITZEN, AMANDA L

ART UNIT	PAPER NUMBER
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3737

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/29/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/637,221

Applicant(s)

SMITH ET AL.

Examiner

Amanda L. Lauritzen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/8/03; 3/26/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

### ***Claim Objections***

2. Regarding claims 1-27, the phrase "such as" in line 2 of claim 1 renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
3. Regarding claim 25, the limitation "the support member" is lacking antecedent basis. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 41-45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 41 and others cite the limitation "the scan image having a top planar envelope" and various processing techniques are claimed in relation to it, but neither the top planar envelope of the scan image or the associated processing techniques (as related to this identifying structure) are described in the specification.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 6, 7, 9, 10, 17-20, 24, 25-27, 46, 49, and 50-53 are rejected under 35

U.S.C. 102(b) as being anticipated by Carr (US 5,983,124).

Carr discloses an apparatus and associated method for screening or diagnosing cancer in a breast of a patient, comprising: a table; a support system for supporting the patient's breast in a fixed position; a microwave assembly including antenna, source, receiver, and inherent processor; and an orientation system for orienting the surface of the breast in known positions with respect to anatomy of the patient and locations of the antenna (microwave-transparent padded scan plate shown in Figs. 1 and 6 enables orientation of the breast with respect to both patient anatomy and antenna(s) located within the probe as in co. 4, lines 20-35; col. 5, lines 10-35; col. 9, lines 43-60; also col. 2, line 61- col. 3, line 10 in which positioning is with respect to antenna(s)).

Regarding claim 7, Carr discloses a microwave-transparent scan plate (shown in Figs. 1 and 6) but does not disclose the dielectric constant of the plate to be within the range of 1.7-9; however other materials of the apparatus are disclosed within that range (e.g., the probe at col. 8, lines 46-54). Because the plate is microwave-transparent and appropriate for imaging, it is understood that this component of the apparatus is also within this dielectric range.

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Regarding claim 10, Examiner understands an air gap of less than 3 mm to be provided between the antenna and scan plate of the apparatus of Carr as the antenna is disclosed to make intimate contact (col. 5, lines 32-35), which is most broadly interpreted to encompass close proximity and/or material touching.

Regarding claim 25, the support member is taken to be the grid/scan plate (of Figs. 1 and 6) of the Carr reference.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-5, 8, 21, 22, 28-38, 41-45, 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carr '124 in view of Meaney et al. (US 2004/0077943).

Regarding claims 3-5 and 47, Carr discloses all limitation of the invention as substantially claimed including examination of the armpit area (axillary gland at col. 2, line 65) and as detailed in above section 5, but does not disclose incorporating an optical camera in the microwave imaging system; however, in the same field of endeavor Meaney et al. disclose acquiring optical images that are to be overlaid with the microwave scan images (para. 14 in which microwave images are "spatially co-registered" with a 3-D optical image; see also claim 70 for "overlaying" with a 3-D optical image). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the optical imaging system with the

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microwave imaging system as taught by Meaney for the purpose of corresponding microwave-detected internal abnormalities with a specific visual reference of the breast exterior (for motivation, see para. 54 of Meaney).

Regarding claim 21, neither Carr nor Meaney expressly disclose digital camera viewing means, but it would have been obvious to provide a digital camera for the optical imaging means disclosed with the microwave/optical imaging system of Meaney as digital imaging systems are well known in the art to provide convenience and flexibility for image acquisition, processing, and viewing.

Regarding claim 22, the antenna (contained within the probe of Carr) is disclosed to move along coordinates (refer to Fig. 6 for coordinate grid; see also col. 9, lines 43-60), but this movement is not disclosed as provided by a motorized system; however, movement of the antenna disclosed by Meaney is provided with an actuator/drive shaft (paras. 12-13). Since movement of the antenna of Meaney does not require physical placement on the part of the medical examiner, the drive shaft inherently includes some sort of motorized system (additionally, a motor is a simple means of actuation that is well known in the art). It would have been obvious to include a motorized actuator as described by Meaney for movement of the antenna along coordinates as disclosed by Carr in order to enhance accuracy and precision by automating placement of the probe.

Regarding claims 32-33, archiving the displayed image and patient data are taken as image and data storing means as disclosed by both Carr and Meaney.

7. Claims 11, 12, 13-16, and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carr '124 in view of Haddad et al. (US 6,454,711).

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Carr discloses all features of the invention as substantially claimed but does not include microwave absorbing material, but in the same field of endeavor Haddad et al. disclose microwave absorbing material (col. 3, line 27). It would have been obvious to incorporate use of a microwave absorbing material for the purpose of reducing residual crosstalk between the antennas of the apparatus of Carr (for motivation, see Haddad col. 3, lines 27-28).

8. Claim 23 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carr '124 in view of Horton et al. (US 5,168,514).

Carr discloses all features of the invention as substantially claimed but does not include an adjustable upper surface section of the examination table that enables the patient to sit in an upright position; however, Horton et al. disclose adjustable back-rests and other surfaces as part of an examination table that provide a patient with support in a seated position while undergoing medical procedures in which breast tissue is targeted (col. 2, lines 44-47). It would have been obvious to one of ordinary skill in the art to provide the breast examination table of Carr with adjustable support members disclosed by Horton in order to position the patient such that the targeted anatomy is fully accessible to the medical examiner.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda L. Lauritzen whose telephone number is (571) 272-4303. The examiner can normally be reached on Monday - Friday, 8:30am - 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



A.L.L.

01/17/2007



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